

WHAT IS CLAIMED IS:

1. A bulk product melt system comprising:

a portable support platform positionable with respect to a bulk product source vessel;

a hot water heating system positioned with respect to the portable support platform and including a water tank, the water tank containing a volume of water heated to a selected process water temperature;

a water flowmeter in control communication with the water tank and monitoring a water flowmeter rate of the heated water from the water tank;

a mixing eductor in fluidic communication with the water tank and receiving the heated water at a controlled water flowmeter rate from the water tank;

a bulk product mixing system positioned with respect to the portable support platform and including a bulk product receiver having an inlet portion in fluidic communication with an outlet of the bulk product source vessel and an outlet portion in fluidic communication with the mixing eductor, a bulk product discharged from the bulk product receiver into the mixing eductor, the bulk product mixed within the mixing eductor with the heated water to produce a melted product mixture; and

an inlet of the bulk product source vessel in discharge communication with the mixing eductor, the bulk product source vessel inlet receiving the melted product mixture from the mixing eductor.

2. The bulk product melt system of Claim 1 wherein the hot water heating system comprises:

a heat source;

a heat exchanger having a first end portion operatively connected to the heat source and a second end portion operatively connected to the water tank, the heat exchanger providing heat transfer communication between the heat source and the volume of water contained within the water tank; and

a water temperature controller operatively connected to the heat source and programmable to heat the volume of water contained within the water tank to the selected process water temperature.

3. The bulk product melt system of Claim 1 wherein the bulk product mixing system comprises:

a continuous weigher in fluidic communication with the product receiver, and in discharge communication with the mixing eductor.

4. The bulk product melt system of Claim 1 wherein the bulk product source vessel comprises one of a railroad car, a truck tanker, a temporary processing tank or a permanent storage tank.

5. The bulk product melt system of Claim 1 further comprising an ultraviolet microbial sanitizer in fluidic communication with the water tank.

6. A bulk product melt system for treating a bulk product source comprising:

a water tank containing a volume of water heated to a selected process water temperature, the water tank positioned on a portable support platform, the support platform positionable with respect to the bulk product source;

a water flowmeter in control communication with the water tank and monitoring a water flowmeter rate of water from the water tank;

a mixing eductor in fluidic communication with the water tank, at least a portion of heated volume of water received within the mixing eductor from the water tank;

a bulk product receiver having an inlet portion in fluidic communication with an outlet of the bulk product source and an outlet portion in fluidic communication with the mixing eductor, a bulk product discharged from the bulk product receiver into the mixing eductor, the bulk product mixed within the mixing eductor with the heated water to produce a melted product mixture; and

an inlet of the bulk product source in discharge communication with the mixing eductor, the bulk product source inlet receiving the melted product mixture as the melted product mixture is discharged from the mixing eductor.

7. The bulk product melt system of Claim 6 further comprising:
a heat source; and
a heat exchanger providing heat transfer communication between the heat source and the volume of water contained within the water tank.

8. The bulk product melt system of Claim 7 further comprising a water temperature controller operatively connected to the heat source and programmable to heat the volume of water contained within the water tank to the selected process water temperature.

9. The bulk product melt system of Claim 6 further comprising:
a continuous weigher in fluidic communication with the product receiver, and in discharge communication with the mixing eductor, the continuous weigher discharging the bulk product received from the bulk product receiver into the mixing eductor.

10. The bulk product melt system of Claim 6 wherein the process water temperature is about 130°C to about 180°C.

11. The bulk product melt system of Claim 6 wherein the water flowmeter rate is about 100 GPM to about 150 GPM.

12. A method for producing a melted bulk product mixture comprising the steps of:

moving a portable support platform into proximity with a bulk product source vessel;

transferring a bulk product from the bulk product source vessel to a bulk product receiver on the portable support platform;

weighing the bulk product to determine a bulk product total weight;

mixing the bulk product within a mixing eductor with heated water;

melting the bulk product with the heated water to form the melted product mixture; and

discharging the melted product mixture into the bulk product source vessel.

13. The method of Claim 12 wherein the bulk product source vessel comprises one of a railroad car, a truck tanker, a temporary processing tank or a permanent storage tank.

14. The method of Claim 12 wherein the portable source platform comprises one of a railroad car and a truck flatbed.

15. The method of Claim 12 further comprising the step of verifying the process water temperature before mixing the heated water with the bulk product.

16. The method of Claim 12 further comprising the step of selecting a water flowmeter rate and a bulk product total weight.

17. The method of Claim 12 further comprising the step of recirculating the heated water upon reaching a determined water flowmeter rate.

18. The method of Claim 16 wherein a flow meter monitors the water flowmeter rate.

19. The method of Claim 12 further comprising the step of pumping the heated water through an ultraviolet microbial sanitizer and into the mixing eductor.

20. The method of Claim 12 wherein the bulk product is mixed with the heated water at a preset rate.

21. The method of Claim 12 further comprising the step of monitoring the flow of heated water to the mixing eductor.

22. The method of Claim 12 further comprising the step of monitoring a process water temperature within the water tank to prevent the hot water heating system from overheating.

23. The method of Claim 12 further comprising the step meeting a bulk product total weight set point.

24. The method of Claim 23 further comprising the step of verifying the bulk product total weight set point.

25. The method of Claim 24 further comprising one of stopping the portable bulk product melt system or continuing operation of the portable bulk product melt system to meet a second bulk product total weight set point, upon verification of the melted product mixture.

26. The method of Claim 25 further comprising the step of verifying the second bulk product total weight set point.